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ABSTRACT

The report summarizes data on degrees conferred by Virginia's colleges and universities in the 1980's in tabular, graphic, and narrative formats. Highlights are identified in a preliminary section and include: degrees awarded at public institutions increased 20% during the 1980's; degrees in liberal arts and general studies accounted for most of the growth in associate degrees awarded by community colleges; the number of bachelor's degrees rose by 18% at public institutions and 26% at private institutions; there was a 135% increase in master's degrees awarded by private institutions (and only a 14% increase in master's degrees awarded by public institutions); the number of first professional degrees has remained relatively constant since 1982; doctorates awarded by public universities rose nearly 50%; business and management continue to be the most popular undergraduate degrees; although undergraduate degrees declined by 17% in the physical sciences and 27% in the biological sciences, both these fields increased the number of doctorates awarded; mathematics gained at all degree levels, including a gain of 25% for bachelor's degrees; few doctorates were awarded in some fields which expect critical faculty shortages, including social sciences, letters, business and management, and foreign languages. (DB)

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The 1980's

Degrees Conferred by Virginia's Colleges and Universities

May 1990

State Council of Higher Education
for Virginia
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Highlights from

The 1980's: Degrees Conferred in Virginia's Colleges and Universities

- Degrees awarded at public institutions increased 20 percent during the 1980's.
- At some institutions, the gain was much higher: George Mason University doubled its graduates; Mary Washington College increased by two-thirds; and Christopher Newport College grew by nearly a third.
- Four private institutions grew substantially: Liberty University (up 361%), Marymount University (up 133%), Hampton University (up 33%), and University of Richmond (up 33%).
- Degrees awarded in liberal arts and general studies accounted for most of the growth in associate degrees awarded by the Virginia community colleges over the last few years.
- The number of bachelor's degrees awarded rose by 18 percent at public institutions and 26 percent at private colleges and universities.
- The largest increase for any degree level was a 135 percent rise in the master's degrees awarded by private institutions. Master's degrees awarded by public institutions increased by only 14 percent over the decade.
- The number of first-professional degrees (law, medicine, dentistry, veterinary medicine, divinity) awarded by public and private institutions has remained relatively constant since 1982.
- Doctorates awarded by public universities rose nearly 50 percent.
- Business and management continue to be the most popular undergraduate degrees. Over 4,600 students received such degrees in 1989, or one out of every four graduates. This represents a 42 percent increase from 1980.
- Education was a big loser at all levels, although degrees awarded at the baccalaureate and master's levels began increasing in the late 1980's.
- Undergraduate degrees declined by 17 percent in the physical sciences and by 27 percent in the biological sciences. However, both these fields graduated an increased number of doctorates, up 138% in the physical sciences and 33 percent in the biological sciences.
- Three other undergradute fields that gained in popularity were interdisciplinary studies (up 108%); letters (e.g., English, literature, philosophy), up 82 percent; and computer science, up 250 percent. However, the popularity of computer science as an undergraduate degree peaked in 1986.
- Mathematics gained in popularity at all degree levels, including a gain of 25 percent for bachelor's degrees.
- Few doctorates were awarded in a number of fields where there are expected to be critical faculty shortages beginning in the mid 1990's. These include the social sciences, letters, business and management, and foreign languages.
- In the health professions, baccalaureate degrees have dropped over the past four years. However, these fields are enjoying increasing popularity at the master's level (up 50% over the decade), and at the doctoral level (from 0 awarded in 1980 to 22 in 1989).

DEGREES CONFERRED IN 1988-89

Virginia's institutions of higher education awarded nearly 43,000 academic, professional, and technical degrees in 1988-89. Also granted were an additional 2,900 shorter-term certificates, diplomas, and specialized graduate-level awards.

Table 1
Degrees Conferred in Virginia, 1988-89

	Public	Private	All
Associate	6,841	785	7,626
Baccalaureate	19,924	6,113	26,037
Master's	5,550	1,036	6,586
Professional	1,171	524	1,695
Doctoral	737	13	750
Total Degrees	34,223	8,471	42,694
Other Awards	2,597	323	2,920
Degrees & Awards	36,820	8,794	45,614

State-supported Institutions in 1988-89

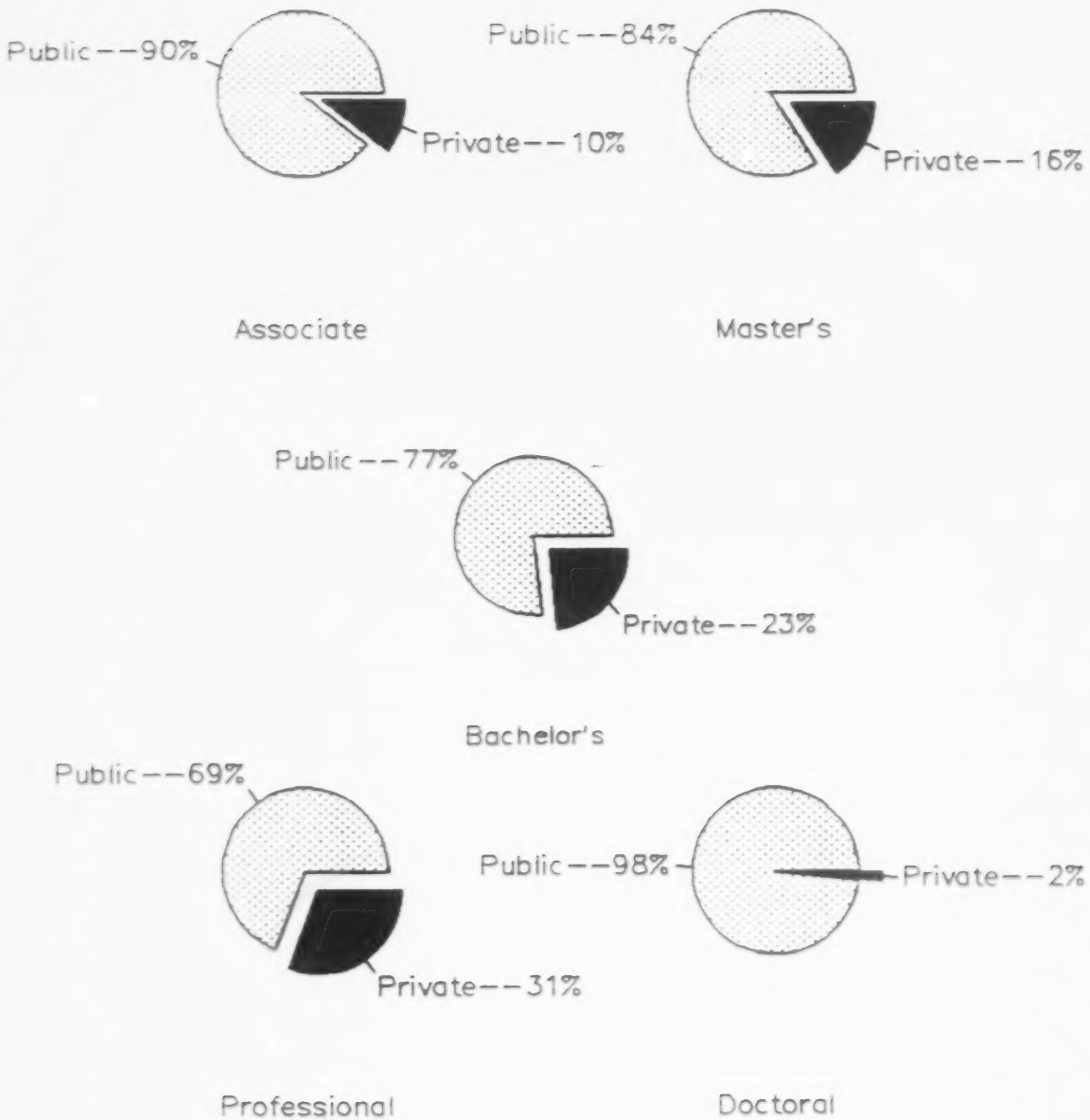
As seen in Table 1, of the state-supported degrees awarded, over half (19,924) were baccalaureate degrees, another 18 percent (6,841) were two-year

associate degrees, 16 percent (5,550) were master's degrees, 4 percent (1,171) were first professional degrees (medicine, dentistry, veterinary medicine, and law), and 2 percent (737) were doctorates. The total number of state-supported degrees and awards conferred in 1988-89 (36,820) represents an overall decrease of about 1 percent from the previous year, when 37,269 certificates, diplomas, and degrees were conferred. Specifically, associate degrees declined by 7 percent and professional degrees by 3 percent from 1987-88. But baccalaureate degrees rose by 2 percent in the public institutions, while a strong advance in master's degrees (over 7%) carried them to a record high in 1989. Doctoral degrees continued their upward progress in the six public doctoral-granting institutions.

Private Institutions in 1988-89

Although a majority of Virginia's degrees are awarded by state-supported institutions (at all degree levels), private colleges and universities awarded nearly one-quarter of the bachelor's degrees granted (see Figure 1). More than half of these degrees were awarded by just five of 24 institutions: Liberty University, the University of Richmond, Hampton University, Washington and Lee University, and Lynchburg College.

Figure 1
1988-89
Degrees Granted by Kind of Institution



Source: Ipeds C1/C2

Private colleges also awarded nearly a third of the state's first-professional degrees, all of these conferred by law schools at the University of Richmond and Washington and Lee University, by the Medical College of Hampton Roads, and by seminaries. Private institutions awarded only 2 percent of doctoral degrees, chiefly in theological studies.

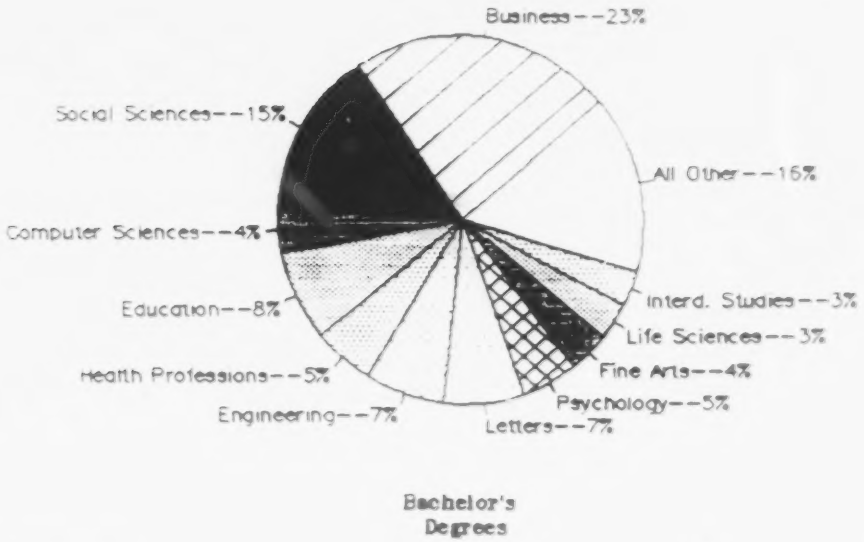
Private baccalaureate degree production was up nearly 600 degrees (about 11%) from 1987-88, climbing to 6,113. Private-sector master's degrees broke the thousand degree level, up by 15 percent to 1,036. The most active degree category was associate degrees, which due to the addition of several for-profit post-secondary institutions grew by over 100 percent, from 370 to 785, reversing a decade-long decline. The Commonwealth Colleges and other proprietary institutions recently have been granted the right to award associate degrees, so this increase in associate degrees awarded by private institutions should continue.

Degree Program Areas in 1988-89

Business and management continue to be the most popular programs for baccalaureate degree recipients at both public and private institutions (see Figures 2 and 3). Of bachelor's degrees awarded, 23 percent were in these fields at public institutions and 27 percent at private institutions. The social sciences (e.g., history, political science, economics, sociology, anthropology) were the next-most-popular degrees, representing 14 percent of the awards at public institutions and 17 percent at private institutions. At public institutions, the next largest percentage of awards was in education (8%), followed by letters and engineering (both 7%), health professions and

Figure 2

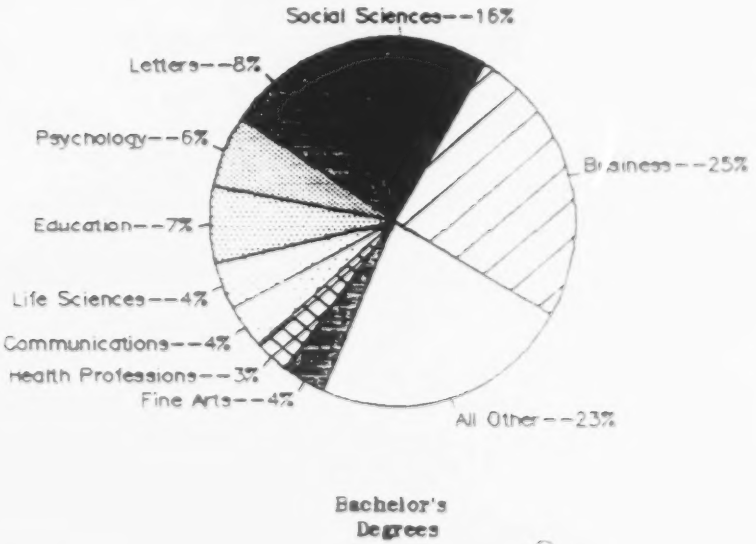
Distribution of Bachelor's Degrees
by Program Area
1988-89, Public Institutions



Source: IPEDS C1/C2

Figure 3

Distribution of Bachelor's Degrees
by Program Area
1988-89, Private Institutions



Source: IPEDS C1/C2

psychology (both 5%), computer science and fine arts (both 4%), and interdisciplinary studies and life sciences (both 3%). The remainder of degrees were in categories for which fewer than 500 awards were conferred (including communications, mathematics, physical sciences, and foreign languages). The distribution of degrees conferred in various fields by private institutions was similar.

TEN-YEAR TRENDS, 1980-89

Over the past ten years, several trends have emerged in Virginia's degrees conferred. The following tables and figures illustrate these trends by institution, degree level, and program area.

Ten-Year Trends by Institutions

The 15 public colleges and universities, 23 community colleges, and Richard Bland College had an overall gain in degrees conferred of about 20 percent during the decade of the 1980's, with only two senior institutions actually awarding fewer degrees in 1989 than in 1980 (see Table 2). While the Virginia Military Institute fluctuated during those years by a range of 70 graduates (from 242 to a high of 312 to the current 260), Virginia State underwent a steady loss of degree completers to close the decade at a loss of 42 percent. Graduation awards at Richard Bland, the state-supported two-year college, fluctuated over the decade, with a low of 110 and a high of 155.

Table 2

DEGREES CONFERRED AT VIRGINIA'S PUBLIC INSTITUTIONS OF HIGHER EDUCATION

1979-80 to 1988-89

Institution	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	Ten Year Change
Christopher Newport College	351	398	381	423	408	446	466	477	495	474	35%
Clinch Valley College	154	112	125	129	164	146	156	161	166	184	19%
George Mason University	1,501	2,144	1,881	1,935	1,988	2,048	2,372	2,533	2,655	2,931	95%
James Madison University	1,782	1,867	2,038	2,076	2,084	2,050	2,094	2,122	2,151	2,243	26%
Longwood College	511	512	572	537	503	475	447	454	479	586	15%
Mary Washington College	413	421	408	429	508	534	559	576	620	666	61%
Norfolk State University	635	686	703	726	776	656	731	627	623	703	11%
Old Dominion University	2,212	2,231	2,341	2,339	2,378	2,429	2,433	2,237	2,577	2,680	21%
Radford University	1,105	1,253	1,266	1,169	1,266	1,218	1,197	1,166	1,238	1,347	22%
University of Virginia	4,337	4,460	4,454	4,633	4,526	4,489	4,734	4,826	4,810	4,834	11%
Virginia Commonwealth University	3,106	3,071	2,965	3,042	3,007	3,049	2,917	2,957	3,070	3,179	2%
Virginia Military Institute	294	249	277	265	271	312	286	242	285	260	-12%
Virginia PolyTech. & S.U.	4,613	4,584	4,829	4,840	5,185	4,902	4,877	4,958	5,318	5,238	14%
Virginia State University	762	616	624	575	605	598	522	464	482	443	-42%
College of William & Mary	1,494	1,520	1,608	1,598	1,517	1,638	1,644	1,568	1,706	1,734	16%
Subtotal	23,270	24,124	24,472	24,716	25,186	24,990	25,435	25,368	26,675	27,502	18%
Community Colleges	5,475	5,740	5,910	6,594	6,524	6,500	6,069	6,260	7,235	6,721	23%
Richard Bland College	137	131	139	144	155	120	110	129	125	128	-7%
Total	28,882	29,995	30,521	31,454	31,865	31,610	31,614	31,757	34,035	34,351	19%

Table does not include certificates of less than one year, certificates of less than four years, post-baccalaureate certificates, or certificates of advanced graduate study.

Of the growing institutions, only Virginia Commonwealth University increased its degrees conferred by less than 10 percent during the ten-year period, holding relatively steady at around 3,000 annually between 1980 and 1989. Colleges and universities with the greatest gains in degrees granted include George Mason University, which nearly doubled in graduates (1,501 to 2,931), to a two-thirds increase at Mary Washington (413 to 666) and a one-third gain at Christopher Newport College (351 to 474). The nine other gaining institutions grew by rates of 11 to 25 percent over the decade. While individual community colleges gained and lost graduates, the system as a whole grew by 23 percent over the same period.

Private institutions had a wider variety of gains and losses by the end of the decade. Among those making the most gains during this period were Liberty University (from 265 to 957 total degrees), Marymount University (up 133% to 684 degrees and awards), the University of Richmond (up 33% to 1,097), and Hampton University (up 33% to 756 degrees). The 1980's also saw the introduction of several new institutions in Virginia, including Commonwealth Colleges, Christendom College, Virginia College, CHRV College of Health Sciences, Notre Dame Apostolic Catechetical Institute, Electronic Computer Programming Institute, and Atlantic University. The following schools closed during the same time: National Graduate University, Northern Virginia Law School, and Katharine Gibbs School. Among private institutions experiencing fewer graduates in 1989 than in 1980 were Virginia Intermont College (down 48% to 62), Ferrum College (down 44% to 196), and Bluefield College (down 42% to 42).

Ten-Year Trends by Degree Level

Table 3 shows the Commonwealth's degrees conferred by level over the 1980-89 period. While the public sector grew by about 18 percent overall, the private institutions grew by nearly 30 percent. Greater variation by degree level is seen in the private institutions. From an overall no-growth at the associate degree level to an impressive more-than-doubling of master's degrees, private institutions now grant about 20 percent of Virginia degrees, although not consistently across degree levels. The private-to-public degree-granting ratio remained at about one out of five during the decade. Figures 4 and 5 represent these data graphically. Figures 6-11 depict trend lines in each degree category, which are described below.

Table 3

Trends in Degrees Conferred By All Virginia Institutions

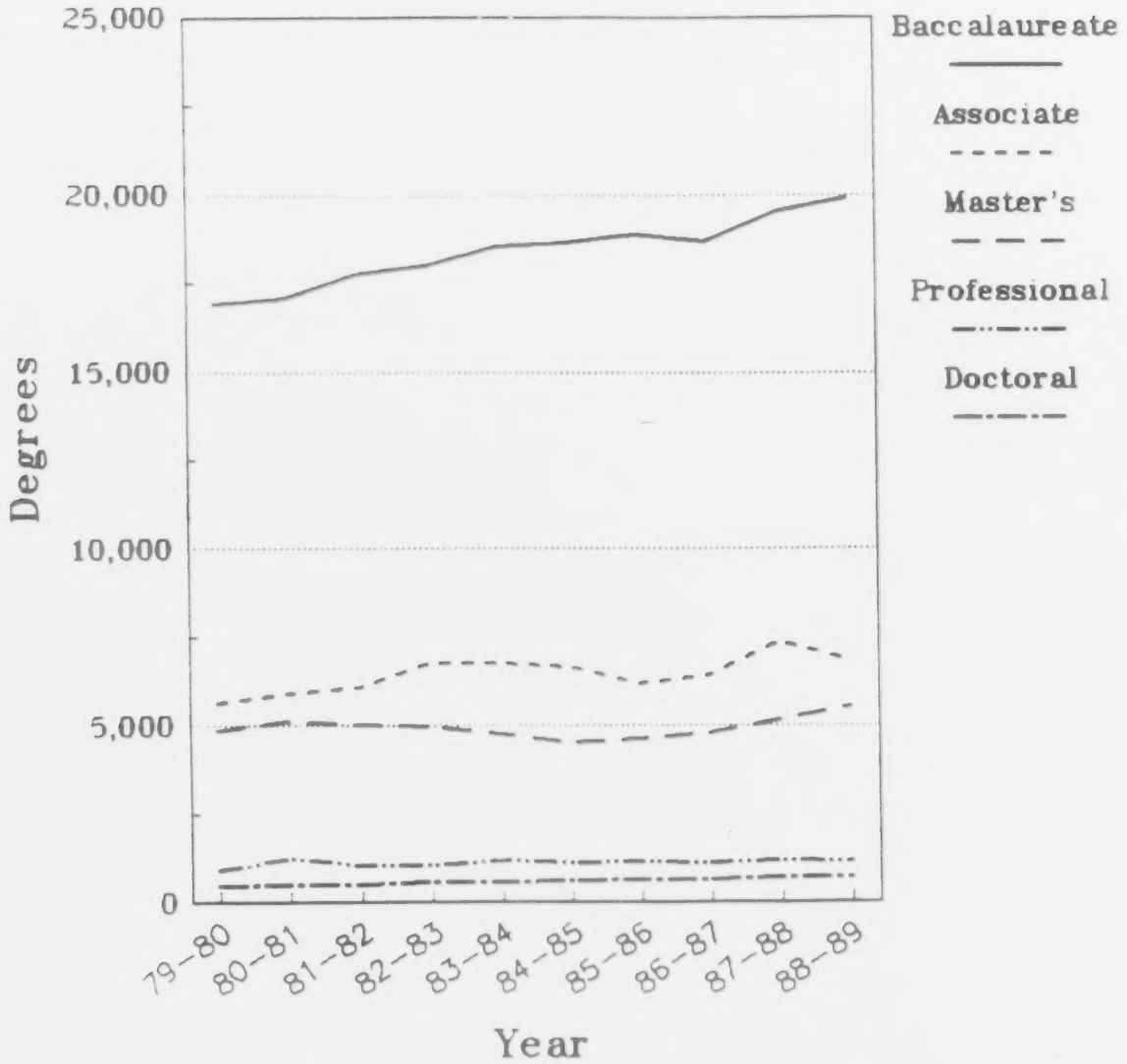
1979-80 to 1988-89

Degree Level	1979-80 Degrees	1980-1981 Degrees	%Change	1981-82 Degrees	%Change	1982-83 Degrees	%Change	1983-84 Degrees	%Change	1984-85 Degrees	%Change	1985-86 Degrees	%Change	1986-87 Degrees	%Change	1987-88 Degrees	%Change	1988-89 Degrees	%Change	Ten Year Change
Associate:																				
Public	5,663	5,952	5.1%	6,100	2.5%	6,799	11.5%	6,769	-0.4%	6,689	-1.2%	6,220	-7.0%	6,427	3.3%	7,396	15.1%	6,841	-7.5%	21%
Private	796	804	1.3%	583	-27.5%	631	8.2%	493	-21.9%	435	-11.8%	391	-10.1%	324	17.1%	370	14.2%	785	112.2%	-1%
All Insts.	6,457	6,756	4.6%	6,683	-1.1%	7,430	11.2%	7,262	-2.3%	7,124	-1.9%	6,611	-7.2%	6,751	2.1%	7,766	15.0%	7,626	-1.8%	18%
Bachelor's:																				
Public	16,915	17,087	1.0%	17,768	4.0%	18,012	1.4%	18,541	2.9%	18,657	0.6%	18,912	1.4%	18,712	-1.1%	19,546	4.5%	19,924	1.9%	18%
Private	4,843	4,974	2.7%	5,048	1.5%	5,155	2.1%	5,244	1.7%	5,329	1.6%	5,511	3.4%	5,275	-4.3%	5,516	4.6%	6,113	10.8%	26%
All Insts.	21,758	22,066	1.4%	22,816	3.4%	23,167	1.5%	23,785	2.7%	23,986	0.8%	24,423	1.8%	23,987	-1.8%	25,062	4.5%	26,037	3.9%	20%
Master's:																				
Public	4,880	5,139	5.3%	5,041	-1.9%	4,997	-0.9%	4,765	-4.6%	4,523	-5.1%	4,657	3.0%	4,798	3.0%	5,171	7.8%	5,550	7.3%	14%
Private	440	396	-10.0%	458	15.7%	510	11.4%	502	-1.6%	825	64.3%	817	-1.0%	703	-14.0%	905	28.7%	1,036	14.5%	135%
All Insts.	5,320	5,535	4.0%	5,422	-2.0%	5,434	0.2%	5,267	-3.1%	5,348	1.5%	5,474	2.4%	5,501	0.5%	6,076	10.5%	6,586	8.4%	24%
Professional:																				
Public	927	1,288	38.9%	1,084	-15.8%	1,063	-1.9%	1,191	12.0%	1,127	-5.4%	1,179	4.6%	1,153	-2.2%	1,205	4.5%	1,171	-2.8%	26%
Private	425	427	0.5%	432	1.2%	455	5.3%	496	8.6%	481	-2.6%	459	-4.6%	444	-3.3%	494	11.3%	524	6.1%	23%
All Insts.	1,352	1,715	26.8%	1,516	-11.6%	1,518	0.1%	1,685	11.0%	1,608	-4.6%	1,638	1.9%	1,597	-2.5%	1,699	6.4%	1,695	-0.2%	25%
Doctoral:																				
Public	497	529	6.4%	526	-0.6%	582	10.6%	599	2.9%	614	2.5%	646	5.2%	667	3.3%	717	7.5%	737	2.8%	48%
Private	53	60	13.2%	48	-20.0%	45	-6.3%	46	2.2%	17	-63.0%	26	52.9%	15	-42.3%	28	86.7%	13	-53.6%	-75%
All Insts.	550	589	7.1%	574	-2.5%	627	9.2%	645	2.9%	631	-2.2%	672	6.5%	682	1.5%	745	9.2%	750	0.7%	36%
Total Awards:																				
Public	28,882	29,995	3.9%	30,519	1.7%	31,453	3.1%	31,865	1.3%	31,610	-0.8%	31,614	0.0%	31,757	0.45%	34,035	7.17%	34,223	0.55%	18%
Private	6,555	6,661	1.6%	6,492	-2.5%	6,879	6.0%	6,779	-1.5%	7,087	4.5%	7,204	1.7%	6,761	-6.1%	7,313	8.2%	8,471	15.8%	29%
All Insts.	35,437	36,656	3.4%	37,011	1.0%	38,332	3.6%	38,663	0.9%	38,697	0.1%	38,818	0.3%	38,518	-0.8%	41,348	7.3%	42,694	3.3%	20%

N.B.:Private Master's degrees vary year to year due to institutional reporting participaton.

Figure 4

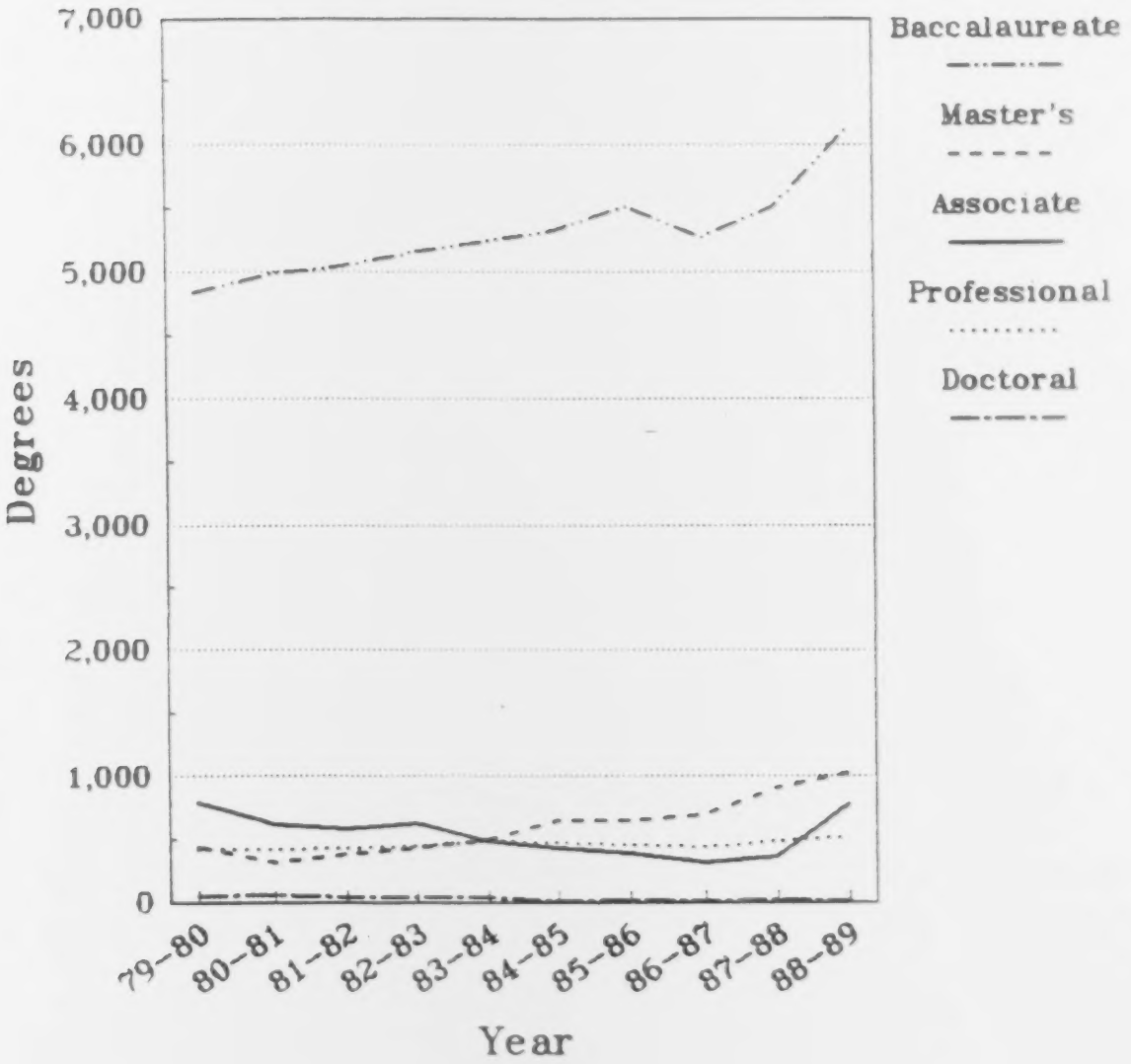
Trends in Degrees Conferred 1980–1989 at State-Supported Institutions



Source: HEGIS 2300-2.1 and IPEDS C1/C2

Figure 5

Trends in Degrees Conferred 1980–1989 at Private Institutions



Source: HEGIS 2300-2.1 and IPEDS C1/C2

Associate Degrees (Figure 6)

The awarding of associate degrees at public institutions fluctuated widely during the 1980's, between 5,600 and 7,400. The sharp rise in 1987-88 may be accounted for by a desire of many community college students to complete their programs of study before the VCCS converted to the semester system. The reversal of the decade-long decline in private associate degrees awarded is due primarily to the escalation of several postsecondary proprietary schools to degree-granting status.

Baccalaureate Degrees (Figure 7)

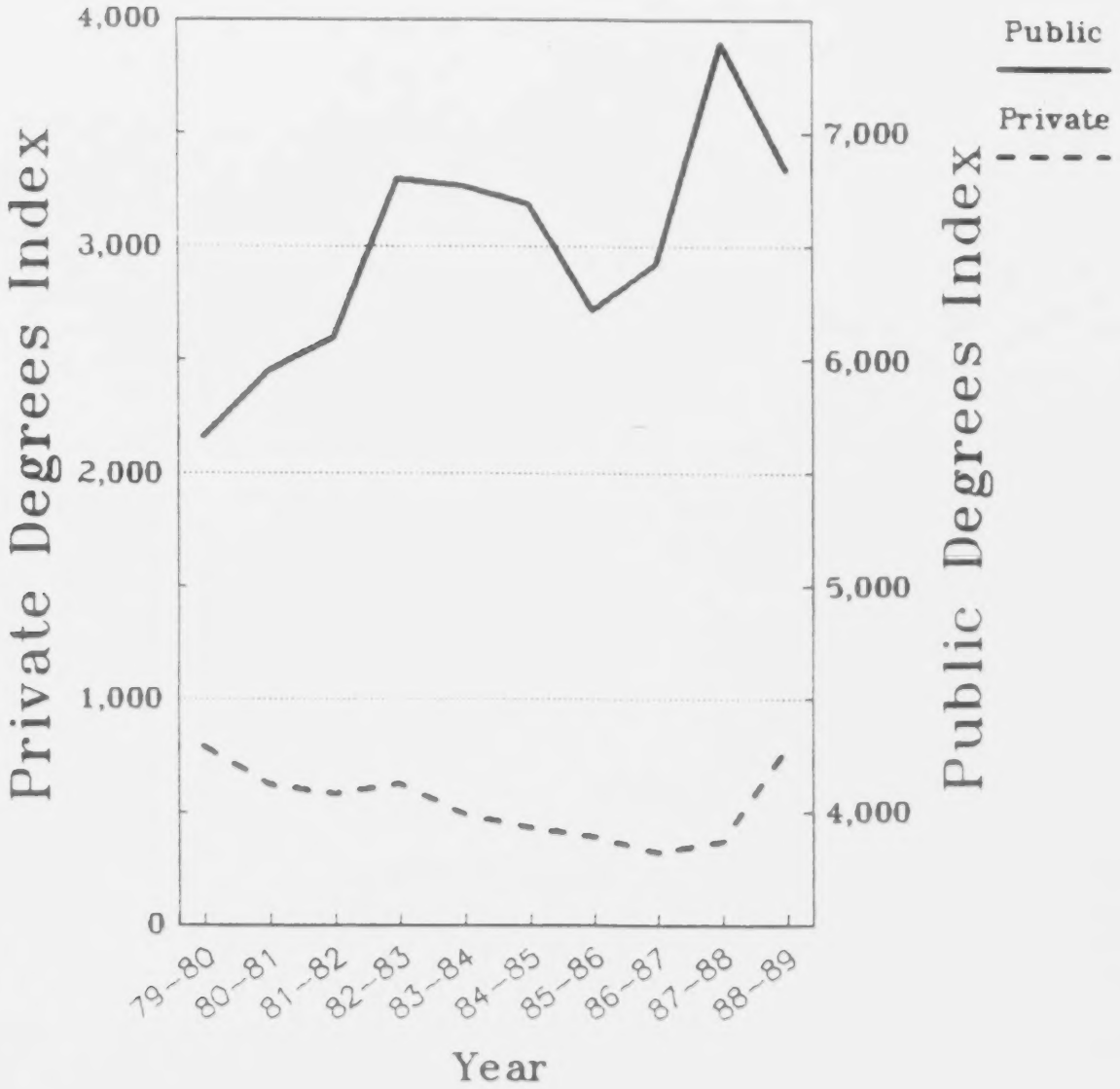
Baccalaureate degrees recorded relatively steady increases over the decade, rising from 17,000 to 20,000 at public institutions (up 18%) and 5,000 to 6,000 at privates (up 26%), for an overall increase of 20 percent. The trend lines are remarkably similar for the two types of institutions, with both experiencing slight declines in 1986-87. Both appear to continue on a steady rise into the 1990's.

First Professional Degrees (Figure 8)

More than any other degree category, professional degrees appear to be awarded at a relatively constant level. With the exception of some fluctuation in law-school graduates in the early part of the decade, public institutions granted 1,100 to 1,200 degrees each year; awards made by private institutions hovered around 500.

Figure 6

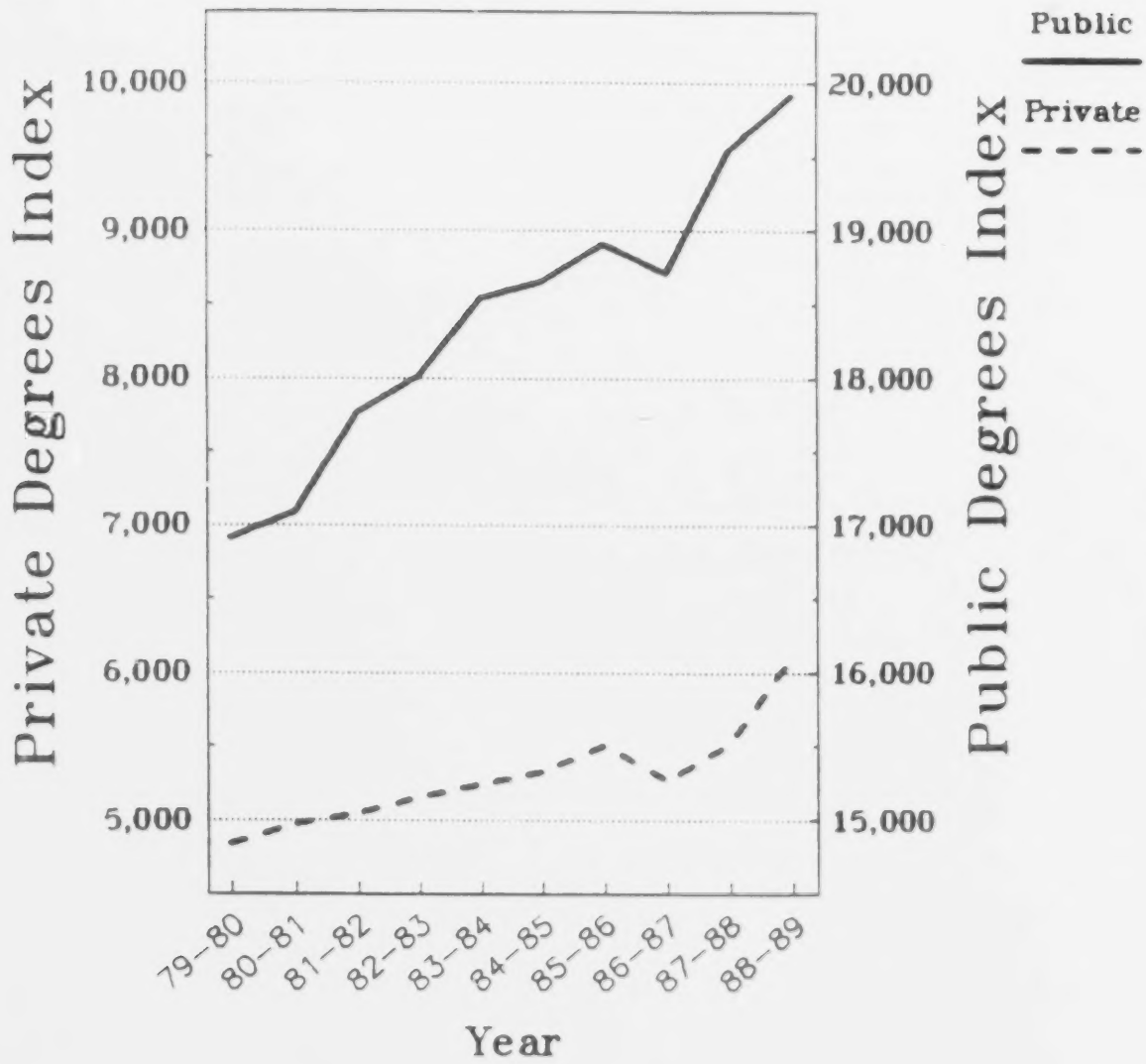
Trends in Degrees Conferred
1980–1989
Associate Degrees



Source: HEGIS 2300-2.1 and IPEDS C1/C2

Figure 7

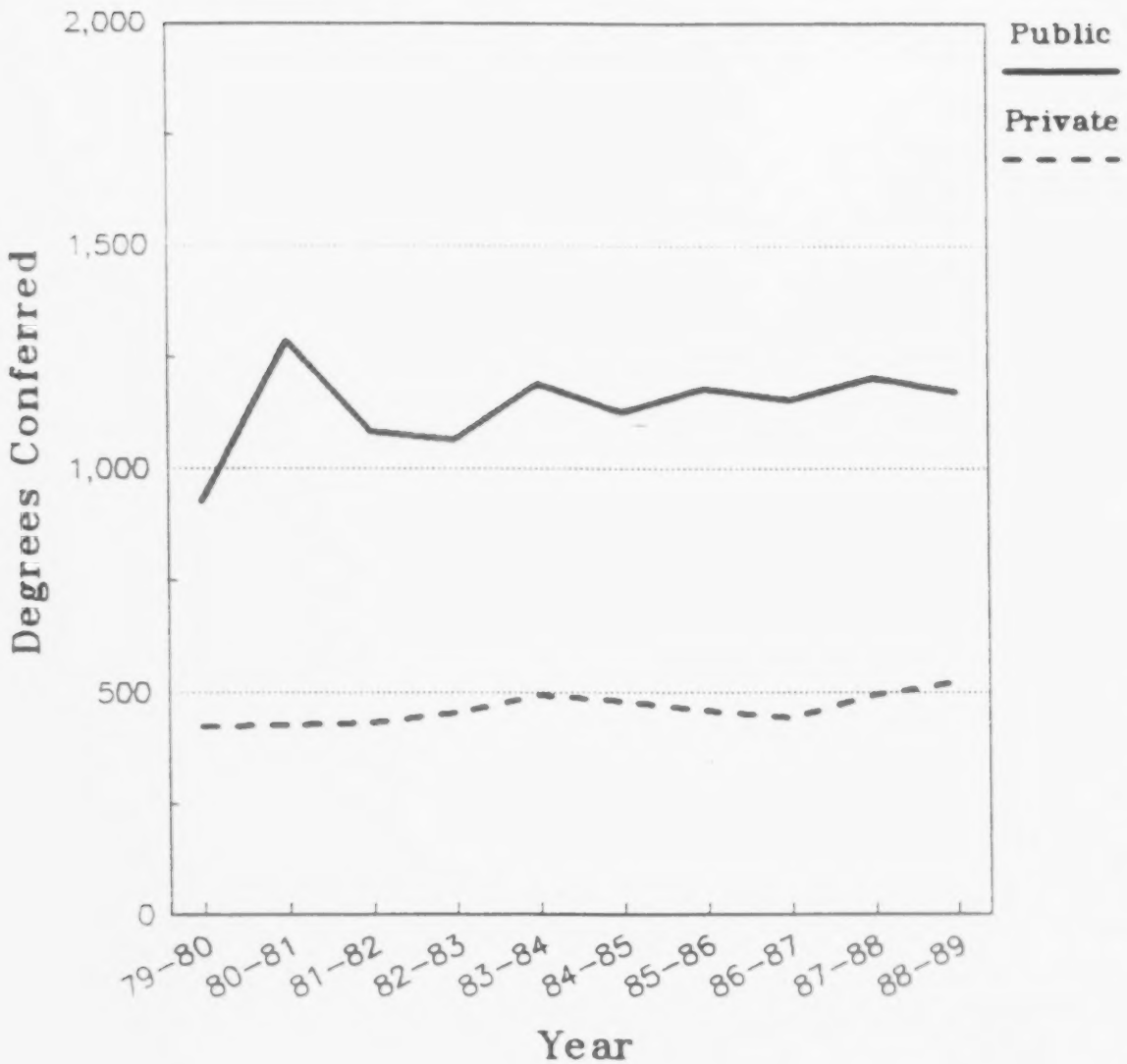
Trends in Degrees Conferred
1980–1989
Baccalaureate Degrees



Source: HEGIS 2300-2.1 and IPEDS C1/C2
__Note Dual Index__

Figure 8

Trends in Degrees Conferred
1980–1989
Professional Degrees



Source: HEGIS 2300-2.1 and IPEDS C1/2

Master's Degrees (Figure 9)

The conferral of master's degrees varied more than might have been expected during the 1980's but now appears to be on a steady rise at both public and private institutions since 1987. Private colleges and universities increased their degrees granted by 135 percent overall (from 440 to 1,036). Public master's increased by only 14 percent (from 5,139 to 5,550), with a steady increase of about 7 percent annually over the past two years.

Doctoral Degrees (Figure 10)

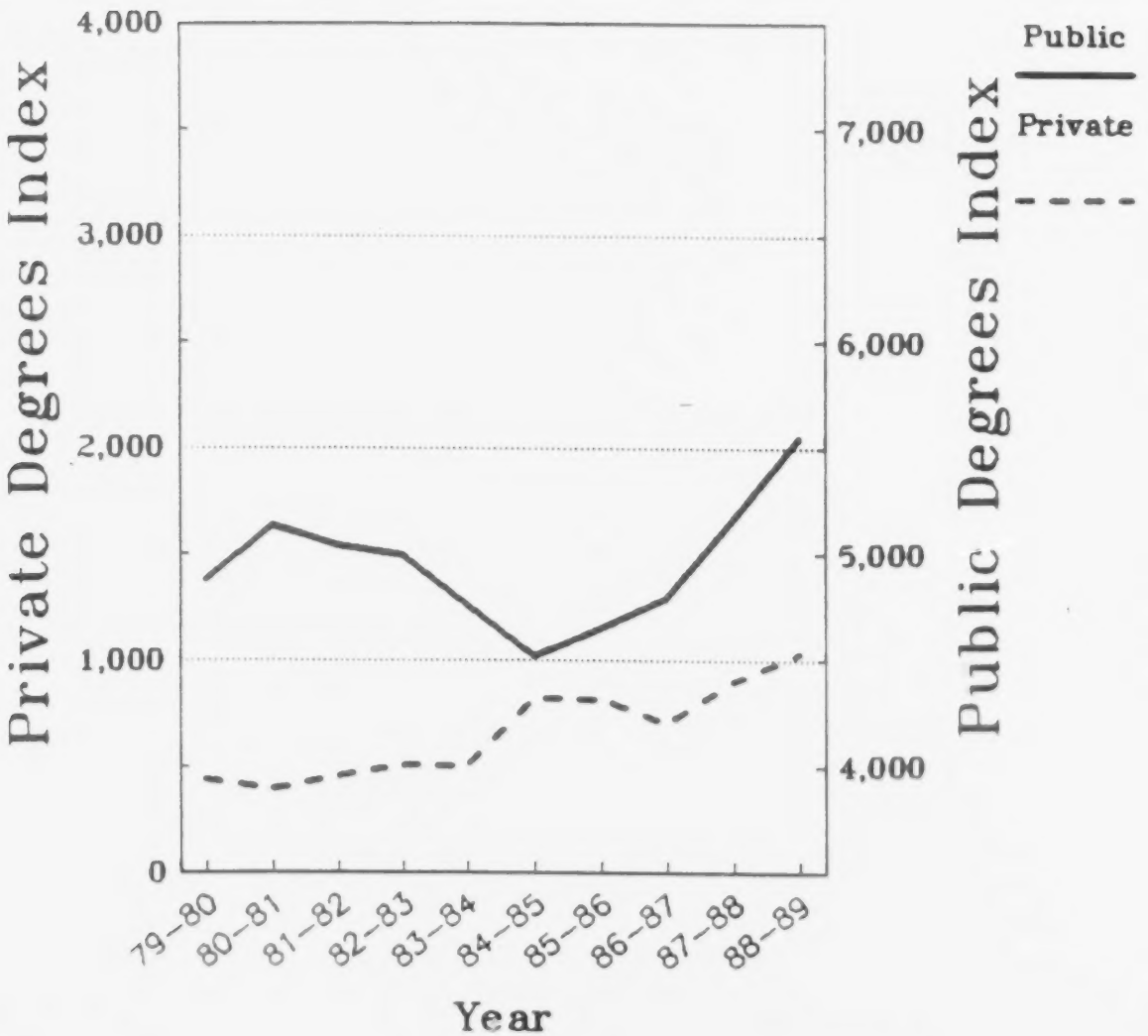
The largest proportional rise in degrees conferred at public institutions occurred at the doctoral level, with a change from 497 to 737 (a 48% increase). Private institutions are experiencing a continued, erratic decline from 53 in 1980 to last year's low of 13.

Graduate Degrees Comparison (Figure 11)

Figure 11 charts the number of graduate degrees awarded by public doctoral-granting institutions between 1980-89. Although the University of Virginia has always led in number of graduate degrees conferred, Virginia Tech almost matched this total last year after a steady rise between 1985 and 1989. Virginia Commonwealth's awards declined during most of the decade and are only now back at 1980 levels. Degrees conferred at Old Dominion University and William and Mary held relatively constant over most of the decade, although both now appear to be on a slightly upward trend. George Mason University's graduate degrees conferred began to take off in 1985 (five years after its escalation to doctoral-granting status), and it now surpasses Old Dominion University in graduate degrees conferred.

Figure 9

Trends in Degrees Conferred
1980–1989
Master's Degrees

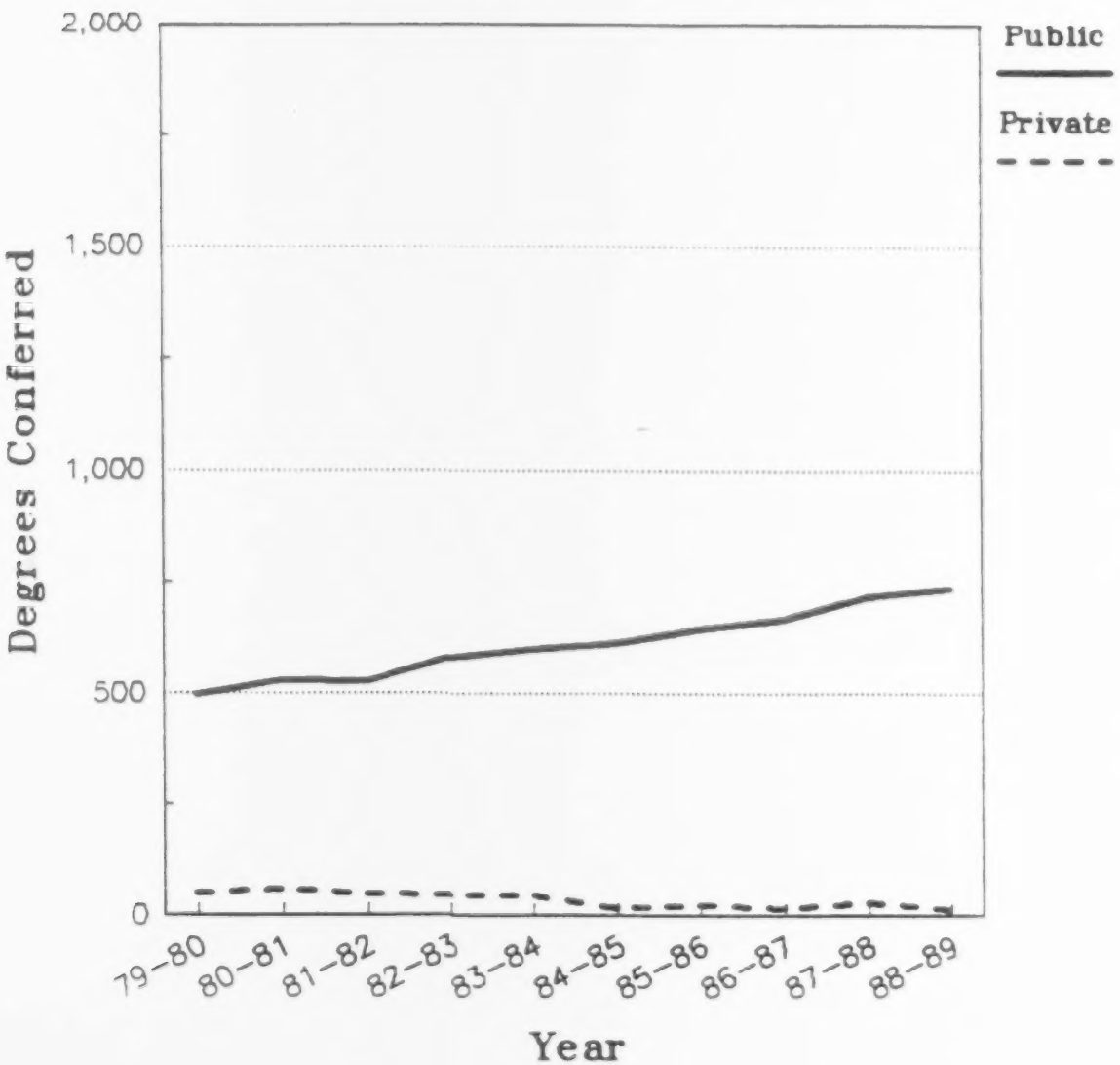


Source: HEGIS 2300-2.1
and IPEDS C1/2
__Note Dual Index__

Private degrees differ year-to-year due to varying institutional reporting participation.

Figure 10

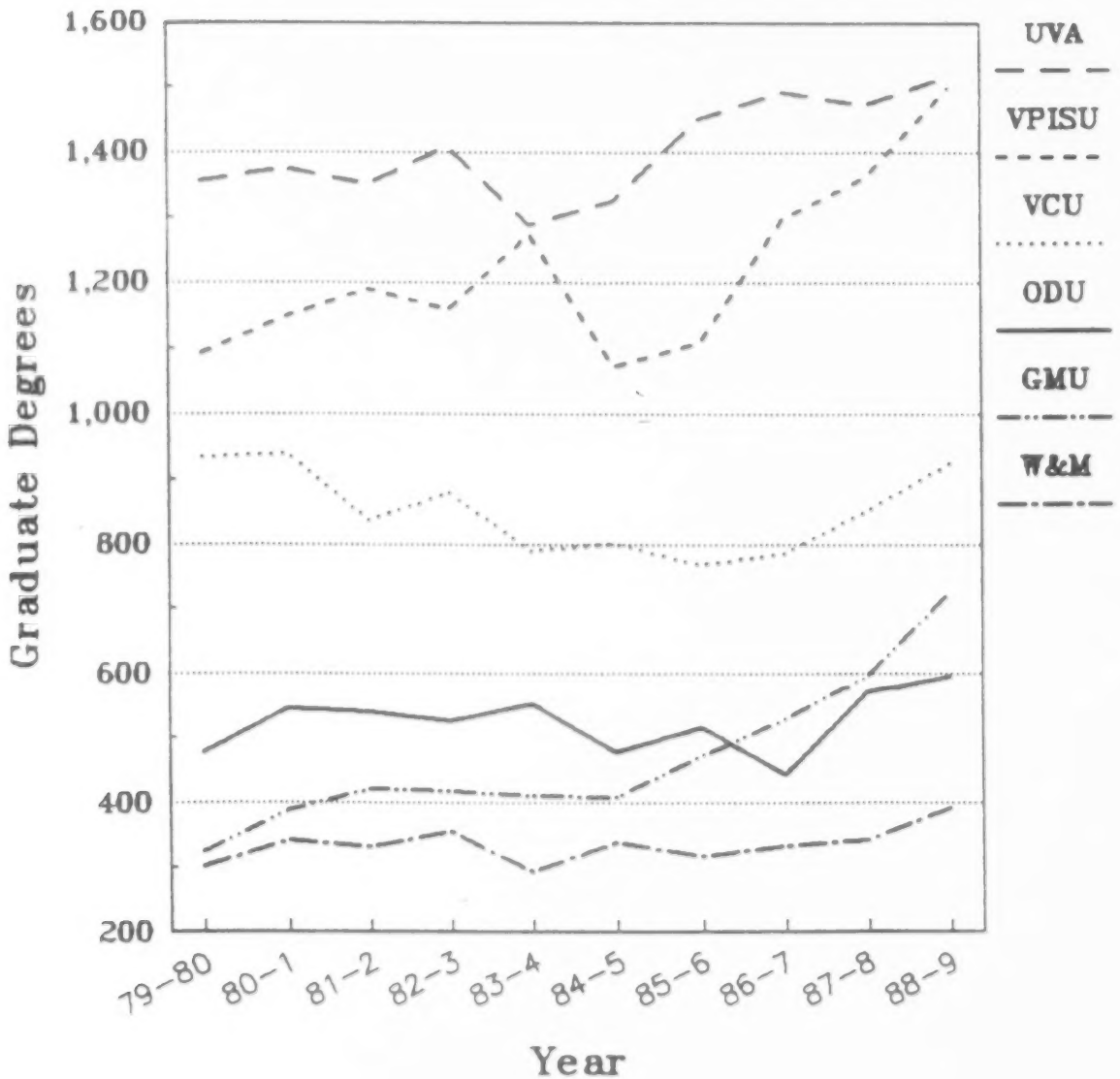
Trends in Degrees Conferred
1980-1989
Doctoral Degrees



Source: HEGIS 2300-2.1 and IPEDS C1/C2

Figure 11

Graduate Degree Comparison
At Doctoral Institutions, 1980-1989
(Combined Master's and Doctoral Degrees)



Source: HEGIS 2300-2.1 and IPEDS C1/C2

Ten-Year Trends for Certificates, Diplomas, and Associate Degrees

Public certificate and diploma programs increase and decrease rapidly in response to market and employer demand. The large fluctuations seen in Table 4 are chiefly the result of less-than-one-year certificate programs:

Table 4

Trends in degrees conferred by program area and degree level.

State-supported Institutions

Certificate and Diploma Programs

Program Area	79-80	82-83	85-86	88-89	Ten Year Change
Health Svcs Tech	204	215	142	1,046	413%
Eng Tech and Industrial	517	1,530	620	626	21%
Business Technology	360	636	386	582	62%
All Other	39	202	84	58	49%
Public Service Tech	152	438	718	75	-51%
TOTAL	1,272	3,021	1,950	2,387	88%

State-supported Institutions

Associate Degrees#

Program Area	79-80	82-83	85-86	88-89	Ten Year Change
Business Technology	1,675	2,571	2,414	2,348	40%
Health Svcs Tech	888	1,068	1,043	1,061	19%
Eng Tech and Industrial	644	1,012	889	904	40%
Agricul & Resources	-	107	74	136	n/a
Natural and Computer Sci	88	200	161	132	50%
Fine & Applied Arts	-	53	57	73	n/a
Architecture	-	16	18	32	n/a
Home Economics	-	3	2	3	n/a
Libl Arts/Genl Studies	1,828	972	835	1,497	-18%
Public Service Tech	543	416	363	337	-38%
Education	-	244	228	201	n/a
Engineering	-	113	118	97	n/a
Parks & Recreation	-	17	12	11	n/a
Communications	-	7	6	9	n/a
TOTAL	5,666	6,799	6,220	6,841	21%

#primarily from the Virginia Community College System, but also includes totals from senior institutions that award or previously awarded less than baccalaureate degrees.

in one year engineering technology programs for shipyard workers contributed to a thousand-degree jump; in another case a state mandate for further training for mental health aides led to another large increase in the health services category; and a training requirement in correctional institutions prompted an increase in the public service technology category. Occasional industrial and governmental demands for training large categories of employees make trend prediction for these certificates and diplomas difficult, but the need for technical job skills and retraining demands should keep increasing certificates and diplomas overall.

The second part of Table 4 lists program trends in public associate degrees. Business technologies accounted for much of the early growth during the decade, although allied health fields and engineering technologies also saw increased popularity. Liberal arts college transfer programs (Liberal Arts/General Studies), while still on the loss side of the ten-year trend, have rebounded from the middle 1980's, although they have not regained as many degrees as were being granted at the end of the 1970's. The category does account for most of the new growth in public associate degrees in the last 3-4 years, however. Effects of the semester conversion process in the VCCS are not apparent in terms of program trends yet, and it is not clear whether the new system will benefit any particular category. Another positive effect on associate degrees has been the first class of Associate of Agriculture students from Virginia Tech in 1989. This program boosted agriculture and natural resources degrees to a decade high 136.

Ten-Year Trends by Program Area

Tables 5, 6, and 7 show public baccalaureate and higher degree trends over the past ten years. Of particular interest is that there are almost as many areas that lost graduates as those that grew. Significant declines appeared in several fields during the decade, most prominently in education and the hard sciences.

Education. Prominent across all higher degree levels is the steady decline of education degrees, although degrees awarded at the baccalaureate and master's levels began increasing in the late 1980's. Recent changes in teacher-certification requirements will result in a sharp decline in the number of baccalaureate degrees awarded in education in future years and a concomitant rise in arts and sciences degrees. Doctoral degrees awarded in education also declined after a high in 1983 of 176 to last year's 146.

Physical and Biological Sciences. Also apparent is a continuous decline at the undergraduate level of graduates in the physical and biological sciences, which experienced declines of 17 and 27 percent, respectively, at a time when numerous national reports stressed the urgency for increased numbers of scientists. The number of degrees awarded in agricultural and natural resource sciences dropped as well. The hard sciences also experienced problems at the master's level: biology programs lost one-third of their master's-level graduates, and master's degrees awarded in physical sciences varied from a low of 66 in 1987 (not shown) to highs of 100 in 1984 and 1988. Agriculture and natural resource master's degrees also declined.

Table 5

Trends in degrees conferred by program area and degree level.

State-supported Institutions

Baccalaureate Degrees

Program Area	79-80	82-83	85-86	88-89	Ten Year Change
Business & Mgmt	3,280	4,199	4,320	4,672	42%
Social Sciences	2,259	2,363	2,416	2,898	28%
Letters	795	911	1,179	1,446	82%
Health Professions	987	1,009	1,094	1,038	5%
Psychology	861	830	805	1,022	19%
Computer Science	224	481	965	783	250%
Interdisc/Genrl Studies	301	384	451	626	108%
Communications	370	442	502	458	24%
Mathematics	240	275	343	301	25%
Engineering Tech	-	259	315	291	n/a
Foreign Languages	230	209	246	281	22%
Area Studies	51	43	50	58	14%
Education	2,070	1,567	1,446	1,565	-24%
Engineering	1,467	1,572	1,572	1,410	-4%
Fine & Applied Arts	749	680	638	726	-3%
Biological Sciences	881	817	799	643	-27%
Public Affairs & Svcs	560	428	416	444	-21%
Physical Sciences	488	534	465	406	-17%
Home Economics	373	337	338	352	-6%
Architecture	254	213	189	213	-16%
Agricul & Resources	455	344	258	188	-59%
Parks & Recreation	-	102	99	97	n/a
Library Sciences	20	13	6	6	-70%
TOTAL	16,915	18,012	18,912	19,924	18%

Table 6

Trends in degrees conferred by program area and degree level.

State-supported Institutions

Program Area	Master's Degrees 79-80	82-83	85-86	88-89	Ten Year Change
Business & Mgmt	672	823	789	971	44%
Engineering	314	392	430	584	86%
Health Professions	256	348	374	386	51%
Public Affairs & Svcs	261	301	292	358	37%
Computer Science	31	65	172	271	774%
Social Sciences	196	221	205	259	32%
Letters	163	164	230	256	57%
Fine & Applied Arts	65	102	102	100	54%
Mathematics	68	73	79	93	37%
Physical Sciences	73	88	92	85	16%
Interdisc/Genrl Studies	42	52	45	73	74%
Home Economics	47	55	42	47	0%
Law	32	50	63	38	19%
Foreign Languages	24	25	35	33	38%
Area Studies	-	-	5	8	n/a
Education	2,050	1,641	1,257	1,516	-26%
Architecture	157	142	140	143	-9%
Psychology	168	177	143	142	-15%
Biological Sciences	147	131	96	101	-31%
Agricul & Resources	81	87	40	64	-21%
Communications	17	50	16	16	-6%
Parks & Recreation	-	10	10	6	n/a
Library Sciences	16	-	-	-	-100%
TOTAL	4,880	4,997	4,657	5,550	14%

Table 7

Trends in degrees conferred by program area and degree level.

State-supported Institutions

Doctoral Degrees

Program Area	79-80	82-83	85-86	88-89	Ten Year Change
Engineering	55	74	81	131	138%
Biological Sciences	72	72	101	96	33%
Physical Sciences	34	33	58	81	138%
Psychology	31	53	48	68	119%
Agricul & Resources	25	30	36	32	28%
Letters	23	28	29	26	13%
Health Professions	-	3	11	22	n/a
Home Economics	8	14	17	22	175%
Mathematics	12	19	17	19	58%
Business & Mgmt	14	20	16	17	21%
Public Affairs & Svcs	-	5	9	12	n/a
Interdisc/Genrl Studies	6	3	3	9	50%
Computer Science	2	6	7	6	200%
Architecture	-	2	2	4	n/a
Education	163	176	150	146	-10%
Social Sciences	42	38	49	41	-2%
Foreign Languages	8	4	7	3	-63%
Law	-	2	1	1	n/a
Fine & Applied Arts	2	-	4	1	-50%
TOTAL	497	582	646	737	48%

State-supported Institutions

First Professional Degrees

Program Area	79-80	82-83	85-86	88-89	Ten Year Change
Law	523	665	703	713	36%
Medicine	300	294	297	300	0%
Veterinary Medicine	-	-	79	77	n/a
Dentistry	104	104	100	81	-22%
TOTAL	927	1,063	1,179	1,171	26%

On the other hand, doctoral degrees increased in all these fields over the decade (gaining as much as 138% in the physical sciences), which may indicate a high persistence among a shrinking pool of Virginia-trained candidates and that doctoral-level sciences students increasingly are admitted from out-of-state institutions. The percentage increases give hope that there will be a pool from which to recruit faculty when the predicted shortages begin to occur in the latter half of the 1990's. But if the pool of baccalaureate holders in these fields continues to shrink, fewer Virginians will be eligible to pursue doctoral studies.

Computer Science. After its remarkable rise during much of the decade (through 1986), computer science awarded fewer degrees for the past three years. Master's degrees continued the explosive growth curve of the early 1980's, increasing over 700 percent, from 31 to 271. Few doctoral degrees were awarded in computer science, with only 6 conferred last year.

Engineering and Engineering Technology. Engineering bachelor's degrees, while growing slightly for most of the decade, showed a downturn in 1988-89. This appears to be a one-year aberration. At the graduate level, the subject is one of the largest degree areas, behind education and business at the master's level and second only to education in doctorates, where it more than doubled from 55 to 131 during the decade. Bachelor's degrees in engineering technology, offered by two state institutions, rose significantly, ending the decade graduating some 300 students a year.

Mathematics. Undergraduate degrees in mathematics rose 25 percent over the decade. Graduate degrees in mathematics also gained 37 percent (from 68

to 93) and 58 percent (from 12 to 19) in master's and doctoral degrees, respectively. Though the total numbers are small, the trend is encouraging in this critical field.

Business and Management. The major trend of the decade was the persistent growth of business-related areas of instruction. Close to 1,400 more students graduated with business degrees in 1989 than in 1980 -- roughly equivalent to an entire graduating class at Radford University. The 42 percent growth enjoyed by business and management means that currently one out of four Virginia undergraduate degrees is in business. Business continued to increase in popularity at the master's level as well, with a rise over the decade from 672 to 971. Doctorates remained fairly steady, between 14 and 20.

Letters, Arts, and Humanities. Two other growth areas for public institutions include general and interdisciplinary studies and the category of letters, which includes literature, rhetoric, creative writing, philosophy, religion, and the classics. Because of the liberal arts orientation of many state-supported institutions, these areas continued to attract students in Virginia. Letters was the fourth most popular field at the bachelor's level, granting over 600 more degrees in 1989 than in 1980. Master's degrees grew by half (to 256), while the number of doctoral degrees remained in the 20's. Again, this low number of doctorates will be inadequate to fill teaching positions in the letters if this continues to be a popular undergraduate major. The fine and applied arts experienced a decline through 1986 at the baccalaureate level and have still not equalled their 1980 numbers. After a surge in the early 1980's, master's degrees granted in fine and applied arts have remained steady at 100 per year.

Social Sciences and Psychology. The social sciences grew at a generally constant rate at the baccalaureate and master's levels, each gaining about 30 percent over the decade. The social sciences remain the second most popular set of undergraduate disciplines, comprising some 15 percent of baccalaureate degrees. Few doctoral degrees continue to be awarded in the social sciences, with the field closing the decade with as many doctorates as it began (about 40). These numbers must increase over the next decade if there is to be an adequate pool of candidates to fill faculty positions left vacant by the retiring professoriate.

Psychology lost master's graduates even as baccalaureate degrees increased by 19 percent, breaking the 1,000 degree mark at the end of the decade. Doctoral recipients more than doubled, however, possibly as a result of increasing requirements for mental health practitioners to be licensed.

Foreign Languages. Baccalaureate degrees in foreign languages experienced a downward trend until 1983, when the number of graduates began increasing, ending the decade with a gain of 22 percent (281 degrees conferred). While there was a one-third increase in master's degrees (from 24 to 33 graduates), doctoral degrees in the field declined to a record low of 3. This is of particular concern, given the need for new faculty who are knowledgeable about other cultures.

Health Professions. The health professions show a sharp increase in the number of doctoral degrees (from 0 in 1980 to 22 in 1989) due to a growth in doctoral programs from 1 to 6, including three in nursing. Most of these

programs are just beginning to have graduates. There has been a 50 percent increase in master's degrees over the decade, with much of the increase in nursing, because of the need for more-specialized and better-prepared nurses to meet increasing demands for patient care. Baccalaureate degrees ended the decade with a 5 percent increase but have dropped over the past four years. This is consistent with national trends as health professions lose potential students because of low salaries, difficult working conditions, and increased opportunities for women to enter other--often better paying--fields.

Public Affairs and Services. Programs in this field (which include public administration, social work, and criminal justice) experienced a decline in undergraduate degrees (21%) and a significant rise at the master's level (37%). This rise in master's degrees is somewhat surprising, given the cutbacks in government programs and attempts by the federal and state government to hold steady or downsize their operations. Doctoral programs in this group have never taken off, however, with just 12 graduates from the state's four public-service doctoral programs.

Communications. The popularity of communications as an undergraduate major peaked in 1985, although the field experienced an overall increase of 25 percent from 1980-89. The Commonwealth's two master's programs in communications generate only about 16 graduates per year, with the exception of 1982-83, when one of the programs graduated a particularly large class.

Additional information on 1988-89 degrees conferred is contained in the Council's Staff Technical Report 90-02, which details degrees by institution, program category, and degree level.